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NOTICE OF PROPOSED MODIFICATION TO

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Chapter 4, Subchapter 7, Article 59, Section 4324 of the General Industry Safety Orders

Dust Collection Systems for Woodworking Machines

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written and oral comments on the above-named standards in which modifications are being considered as a result of public comments and/or Board staff consideration.

On December 14, 2006, the Standards Board held a Public Hearing to consider revisions to Title 8, Section 4324 of the General Industry Safety Orders. The Standards Board received written comments on the proposed revisions. The standards have been modified as a result of these comments and Board consideration.

A copy of the full text of the standards with the modifications clearly indicated are attached for your information. In addition, a summary of all comments regarding the original proposal and staff responses is included.

Any written comments on these modifications must be received by 5:00 p.m. on May, 24, 2007, at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. The standards will be scheduled for adoption at a future business meeting of the Standards Board.

The Standards Board's rulemaking files on the proposed action are open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Standards Board's office at 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833.

Inquiries concerning the proposed changes may be directed to Keith Umemoto, Executive Officer at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Date: May 4, 2007

Keith Umemoto, Executive Officer

PROPOSED MODIFICATIONS
(Modifications are indicated in bold,
double underline wording for new language,
and bold, strikeout for deleted language.)

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 4324 to read:

4324. ~~Exhaust~~ Dust Collection Systems.

(a) Use of dust collection systems for the removal of wood dust and chips produced by woodworking machines shall conform to this section.
(1) Suitable ~~exhaust~~ dust collection systems shall be required whenever the chips and ~~sawdust~~ wood dust produced by woodworking machines accumulate ~~on the floor~~ so as to endanger employees.
Note: Additional requirements for all mechanical ventilation systems are contained in Section 5143.
(b) Definitions.
(1) Dust Collection System. An exhaust system that is designed to capture wood dust, chips and other wood particulates at the point of generation, usually from multiple sources, and to convey the material to a point of consolidation. A dust collection system includes the collection hood, the exhaust fan, the dust collector, and all ducts, flexible hoses or other devices used for conveying the material.
(2) Dust Collector. The part of the dust collection system where the material is separated from the air stream and consolidated. Dust collectors include conventional solid-walled cyclones and baghouses, and enclosureless bag-type units.
(3) Enclosureless Bag-Type Dust Collector. A dust collector that possess all of the following characteristics:
(A) The filtration is accomplished by passing dust-laden air through filter media, collecting the dust on the inside of the filter media, and allowing cleaned air to exit to the surrounding area.
(B) The filter medium is not enclosed in a solid-walled container.
(C) The filter medium is hand shaken, not mechanically shaken or pressure-pulsed.
(D) The filter medium is under positive pressure.
(E) Removal of the collected dust is not continuous or mechanical.
(c) Location of dust collectors. Dust collectors having a maximum air-handling capacity greater than 500 cubic feet per minute (cfm) shall be located in accordance with one of the following:
(1) Outdoors.
(2) In detached rooms of fire-resistant construction and provided with adequate explosion vents.
(3) Inside of buildings **~~if~~ provided that** the collectors are liquid-spray type collectors.
(4) Inside of buildings **~~if~~ provided that** the collectors are enclosureless bag-type dust collectors that meet all the following criteria:
(A) The collector is used only for dust pickup from woodworking or wood processing machinery (i.e., no metal grinders, painting and finishing operations, or other operations that may increase the risk of fire or explosion).
(B) The collector is not used on sanders or abrasive planers having mechanical feeds.
EXCEPTION: Sanders or abrasive planers with mechanical feeds meeting the following conditions:

1. **The mechanical feed device is of the rubber belt type, and not a feed device equipped with metal rolls, pawls, chains, tracks or similar mechanisms, and**

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

2. The sander or planer is equipped with an electronic load sensor that automatically shuts off the feed device when overloading occurs.

(C) Each collector has a maximum air-handling capacity of 5000 cfm or less.

(D) The fan motor is of a totally enclosed, fan-cooled design.

(E) The collected dust is removed daily or more frequently if necessary to ensure efficient operation.

(F) The collector is located at least 20 feet from the nearest emergency egress route **~~or employee work station.~~**

EXCEPTION: One enclosureless bag-type dust collector with a maximum air-handling capacity of 1500 cfm may be located within 20 feet of an emergency egress route provided that it is not within 10 feet of an emergency exit.

(G) **The collector is located at least 20 feet from the nearest employee work station.**

EXCEPTION: One enclosureless bag-typed dust collector with a maximum air-handling capacity of 1500 cfm may be located within 20 feet of the nearest employee workstation.

~~(G)~~ (H) Multiple collectors in the same room are separated from each other by at least 20 ft.

EXCEPTION **~~to (c)(4)(F) and (c)(4)(G)~~: A maximum of two ~~E~~e**nclosureless bag-type dust collectors **may be located within 20 feet of each other in the same room provided that each collector ~~with~~ has** a maximum air-handling capacity of 1500 cfm or less.

(d) Bonding and grounding of ducts. Ducts and flexible hoses used to convey air and material as part of dust collection systems shall be constructed of metal or other conductive material **and shall be bonded and grounded to prevent the accumulation of static electricity generated by the airflow. Nonconductive ducts such as PVC pipes shall not be permitted.**

EXCEPTION: Nonconductive flexible ducts and hoses may be used for final machine connection in a length not exceeding the minimum required for machine operation provided that bonding to ground is maintained.

~~(b)~~(e) Guards and collection hoods. Where a~~n exhaust~~ dust collection system is used the guard shall form part or all of the ~~exhaust~~ collection hood **~~and shall be constructed of a suitable solid material of a thickness not less than that specified in Section 3943~~ 3942**.

~~(c)~~(f) Removal of other refuse. Provision for the removal of refuse shall be made in all operations ~~not required to have an exhaust system or~~ having refuse too heavy, bulky, or otherwise unsuitable to be handled by the ~~exhaust~~ dust collection system.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO ORAL AND WRITTEN COMMENTS:

I. Written Comments

Mr. Christopher Lee, Acting Regional Administrator, Region IX, OSHA, U.S. Department of Labor, by letter received December 7, 2006.

Comment: Mr. Lee states that the proposed standard requires additional levels of protection consistent with NFPA 664-2002 not currently found in the Federal Woodworking Standards. However, Federal OSHA is concerned with subsection 4324(e) which states "where a dust collection system is used, the guard shall form part or all of the collection hood and shall be constructed of a suitable solid material of a thickness not less than that specified in Section 3942." Mr. Lee states that the guard materials and thicknesses specified by Section 3942 are not at least as effective as the guarding requirements for woodworking machines in 29 CFR 1910.213.

Response: The comment is correct in that Section 3942 contains general, minimum guarding requirements for power transmission equipment, prime movers, machines and machine parts. The standards in Article 59 contain specific guarding requirements for various types of woodworking machines. These guarding requirements parallel the federal requirements in 29 CFR 1910.213. The Board concludes it is not necessary for Section 4324, which is intended to address dust collection systems, to reference the guarding requirements in other Article 59 standards. Therefore, to avoid creating any potential conflicts between federal and state guarding requirements for woodworking machines, the Board proposes to modify subsection (e) to delete text relating to guard materials and thicknesses, including the reference to Section 3942.

Mr. Ric Morrison, Production Coach, Sunset Molding Company, by email dated November 27, 2006.

Comment #1. Mr. Morrison states that the proposal holds the woodworking industry to a higher standard than other industries in regards to dust collection systems. He states that he is not aware of any other standards that deal with the control of static electricity even though other materials present more of a static electricity ignition hazard than wood.

Response: The control of static electricity as a potential ignition source for combustible dust is addressed in Section 5174, Combustible Dusts – General. This section requires that all machines, conveyors, housings, and conductive surfaces in locations where combustible dusts are generated or are present shall be electrically bonded to ground to prevent the accumulation of electrostatic charges which are sufficient to potentially cause dust ignition. It further requires that hoses and nozzles used in the collection or blowing of dusts shall have electrical continuity maintained along the entire length from coupling to nozzle and shall be bonded to ground.

Comment #2. Mr. Morrison proposes to add the following underlined text to the end of proposed new subsection (d) as follows:

"(d) Bonding and grounding of ducts. Ducts and flexible hoses used to convey air and material as part of dust collection systems shall be constructed of metal or other conductive material and shall be grounded. In cases where non-conductive, flexible duct is used to allow machine adjustment, the non-conductive, non-grounded, flexible duct shall not exceed one foot more than

the minimum length required to connect it to grounded equipment and a grounded dust collection system."

Response: The Board is amending subsection (d) to specifically require grounding, prohibit non-conductive duct materials such as PVC, and provide an exemption which would allow the use of non-conductive flexible duct for final machine connection in the minimum length necessary for machine operation. These modifications incorporate the commenter's proposed changes and are consistent with NFPA 664.

The Board thanks Mr. Morrison for his comments and participation in the rulemaking process.

II. Oral Comments Received at the Public Hearing on December 14, 2006

Mr. Bruce Wick, V.P. Risk Management, California Professional Association of Specialty Contractors

Comment: Mr. Wick expressed his appreciation and support for the proposal, which would allow the use of this type of dust collector indoors; however, he believes there should be some allowance for mechanical feeds on sanders and abrasive planers due to ergonomic and other issues.

Response: Some mechanical feeds on sanders and abrasive planers can, under certain operating conditions, "overload" a machine and cause excessive friction between the abrasive material and the wood. The increased friction generates heat which can ignite the wood dust and cause a fire in the dust collection system. The Board agrees with Mr. Wick's premise that a mechanical feed that is designed and operated in a manner that prevents overloading of an abrasive sander or planer does not increase the risk that a fire will occur in an indoor dust collector. Therefore, the Board is modifying the proposal to add an exception to subsection (c)(4)(B) which would allow the use of rubber belt type mechanical feeds that: 1) do not have a mechanism capable of forcing wood through an overloaded machine, and 2) are used with a machine equipped with an electronic load sensor that automatically shuts off the feed device if overloading occurs.

The Board thanks Mr. Wick for his comment and participation in the rulemaking process.

Mr. Larry McCune, Principal Safety Engineer, Division of Occupational Safety and Health

Comment: Mr. McCune stated that following the advisory committee meeting there was an exception inserted into Section 4324(c)(4)(G) allowing multiple dust collectors to be installed in an exit passageway. He also stated that there is no limit on the number of 1500 cubic feet per minute (cfm) dust collectors that can be installed in close proximity to each other. The Division feels that the proposal should be modified further to protect exits because these dust collectors do ignite on occasion. Although they do not constitute an explosion risk, a ball of fire that is approximately 20 feet in diameter can be generated by an enclosureless-type dust collector. Mr. McCune stated that the Division discussed this issue with the committee chairman of the NFPA 664 standard and the chairman indicated that the number of dust collectors that could be installed in an exit way or in a workplace was a concern.

Response: The Division's comment pertains to an exception that exempts enclosureless dust collectors (EDC) that are 1500 cfm or less from the provisions of subsections (c)(4)(F) and (G), which prohibit an EDC within 20 feet of the nearest emergency egress route, employee workstation, or another EDC located in the same room. This exception was added to the proposal because employer representatives and other stakeholders asserted during the advisory committee that most facilities did not have enough floor space to provide a 20 foot separation distance between EDCs and workstations, EDCs and emergency egress routes, and multiple EDCs in the same room.

As a result of discussions with Mr. McCune, Board staff concludes the exemption should be modified to prohibit locating an EDC next to an emergency exit and limit the number of EDCs that can be located within 20 feet of an emergency egress route, employee workstation, or each other. Therefore, the Board is modifying the proposal to place the provisions regarding the proximity of EDCs to workstations, emergency egress routes, and other EDCs into three separate subsections with a specific exception for each subsection. The exemptions would only apply to EDCs with an air-handling capacity of 1500 cfm or less. The exemptions would clarify that: 1) one 1500 cfm EDC may be within 20 feet of an emergency egress route provided it is not within 10 feet of an emergency exit, 2) one 1500 cfm EDC may be within 20 feet of an employee workstation, and 3) a maximum of two 1500 cfm EDCs may be within 20 feet of each other in the same room.

The Board believes the proposed modification addresses the concerns of the commenter and provides employers with the flexibility needed to comply with the required separation distances.